I.Com Part II

Business Statistics

Basic Statistics

What is Statistics: A science of collection, presentation, analysis and interpretation of numerical data is called statistics.

Name types of Statistics: Descriptive Statistics, Inferential Statistics, Applied Statistics

What is descriptive Statistics: A type of statistics which deals with collection, presentation and analysis of data is called descriptive statistics.

What is inferential statistics: A type of statistics which deals with the methods of deriving conclusions about the population parameter on the basis of sample data is called inferential statistics.

Write any three characteristics of statistics: Statistics are aggregate of facts, Statistics are collected in a systematic manner, and Statistics are collected for pre-determined purposes.

Write any three functions of statistics: It helps in systematic collection of data, It helps management in decision making, It helps in estimating complicated problems.

What is the importance of statistics in business: Statistics helps in evaluation of business performance, Statistics help in business decision making, and Statistics helps to forecast new business opportunities.

Write any three limitations of statistics: It deals with only aggregate of facts, Statistical concepts are similar for social & physical sciences, and it is estimated science.

What is data: A collection of any number of related observations is called data.

What are primary data: The data collected for the first time for particular purpose for personal use are called primary data.

Name any three sources of primary data collection: Companies Reports, Thesis, and Research Participants;

Name any 3 methods of primary data collection: Personal Observations, Questionnaire, and Telephone.

What are secondary data: The data which were not collected for the first time for particular purpose are called secondary data.

Differentiate between primary & secondary data: Data collected for personal use from primary data resources is called primary data while data collected from secondary data resources is called secondary data.

Name any 3 sources of secondary data: Newspapers, Books and Internet.

Name any 3 methods of secondary data collection: Collection of data through newspaper, Collection of data through books, Collection of data through internet search.

What is variable or variate: A characteristic which adopts different values under particular discussion is called variable. For example age, height and colour etc.

What is discrete variable: A variable that takes countable number of values is called discrete variable. For example Number of trees, Number of Students etc.

What is continuous variable: A variable that takes measurable number of values is called continuous variable. For example height of students, weight of students etc.

What is qualitative variable: A characteristic that cannot be expressed numerically but only can be observed is called qualitative variable. For example Name of places, Name of things, quality of anything etc.

What is quantitative variable: A variable that can be expressed numerically is called quantitative variable. For example No. of books in a library, No. of students in a college etc;

Qualitative vs Quantitative Variable: Quantitative variable can be expressed numerically while quantitative variable cannot be expressed numerically.

What is Constant: A characteristic that does not change under particular discussion is called constant.

What is Population: The totality of the observation in particular situation is called population.

What is Sample: A part of the population is called sample. Sample represents the population under any statistical discussion.

Define Statistic: A numerical quantity calculated from sample is called statistic.

Define Parameter: A numerical quantity calculated from population is called parameter.

(Presentation of Data)

What are ungrouped data: Unarranged and unclassified data are called ungrouped data.

What are grouped data: Data arranged into their frequencies are called grouped data.

Write different methods of presentation of data: Classification, Tabulation, Diagrams, and Graphs

What is classification: A process of arranging data into sequences and groups according to their characteristics is called classification.

What is tabulation: A logical and systematic arrangement of statistical data into rows and columns is called tabulation.

Classification vs Tabulation: Classification is a part of data analysis while tabulation is a part of data presentation. Classification is basis for tabulation because first the data is classified and then tabulated.

Define Array: The number of times an observation occurs in the given data is called frequency of such observation.

What is frequency: The number of times an observation occurs in the given data is called frequency of such observation.

What is Class: A set of objects, having common characteristics is called class.

What is class frequency: The number of values which represent specific class is called class frequency.

What is cumulative frequency: The cumulative frequency of a particular class is a sum of frequency of that class and all previous classes up to that class.

What is relative frequency: Class frequency expressed as a ratio of the total frequency is called relative frequency**.**

What is frequency distribution: An arrangement of given data in the form of a table showing frequency with which each variable occurs is called frequency distribution.

What are class limits: The end values of a class are called class limits. In other words the lower and upper values of a class are called class limits.

What are class boundaries: The exact values which separate one class of data from other class are called class boundaries.

What is class interval: The difference between the upper and lower class boundaries is called class interval.

Upper class boundary: Figure which represents higher limit in particular class is called upper class boundary.

Lower class boundary: The figure which represents lower limit in particular class is called lower class boundary.

What is open end class: A class without upper class limit or lower class limit is called open ends class.

Name any three types of charts: Simple Bar Diagram, Multiple Bar Diagram, and Pie Chart.

Name any 3 graph of frequency distribution: Histogram, Polygon, and Ogive.

Define graph: Pictorial representation of the relative changes between two quantities of which one varies as a result of the change in the other is called graph. Graph includes both charts and diagrams.

Name major types of graphs:

What is histogram: A set of adjacent rectangles for a frequency distribution such that the area of each rectangle represents the corresponding class frequency is called histogram.

Define Historigram: A curve which shows the changes in the values of one or more variables from one period of time to the next is called Historigram.

What is pictogram: A graph which expresses the statistical data in the form of symbols is called pictograph.

Name any 3 graph of frequency distribution: Histogram, Frequency Curve, and Frequency Polygon.

Define frequency curve: A curve which is derived from smoothed frequency polygon is called frequency curve.

What is an ogive: The cumulative frequency polygon is called is ogive.

What is frequency polygon: A many sided closed figure that represents frequency distribution is called frequency polygon.

What is bivariate frequency distribution: A frequency distribution which discusses two variables at a time is called bivariate frequency distribution.

(Measure of Central Tendency)

What is average: A single value which represents the whole data is called average. Average is also called measure of central tendency or measure of location.

Any 3 characteristics of good average: It can be easily calculated, It should be understandable, It should be based on the normal values.

Important types of average: Arithmetic Mean, Geometric Mean, Harmonic Mean, Median and Mode.

Why the average is called measure of central tendency: Average is called measure of central tendency because average tends to lie in the center of the observation.

Arithmetic Mean: A figure which is calculated by dividing the sum of all the values in a given data by their numbers is called arithmetic mean.

Merits of Arithmetic Mean (2): It can be easily calculated, It can be easily understood.

Demerits of Arithmetic Mean (2): Effected by extreme values, further algebraic treatment is not possible.

Where Arithmetic Mean is normally used: Arithmetic mean is normally used to study social, economic & commercial problems like production, price etc.

Define Median: The middle most value of the arranged data is called median.

Merits of Median (2): Not effected by extreme values, It can be easily calculated.

Demerits of Median (2): It is not rigidly defined; It is not based on all the observations.

In which field median is normally used: The fields where direct measurement of the variables like poverty, beauty & intelligence etc is not possible.

Define Mode: The most common value of the data is called mode.

Merits of Mode (2): Not affected by extreme values, It can be easily calculated.

Demerits of Mode (3): Mode is not based on all observations, Mode is not clearly defined, and Mode is not suitable for further algebraic treatment